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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,532	10/21/2002	Richard Jonathan Langley	10681-007	3226

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EXAMINER

WIMER, MICHAEL C

ART UNIT PAPER NUMBER

2828

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,532

Applicant(s)

LANGLEY ET AL.

Examiner

Michael C. Wimer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-37, 40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22, 24, 26, 28, 31, 34, 37, 40 and 41 is/are allowed.
- 6) ☒ Claim(s) 21, 23, 25, 27, 29, 30, 32, 33, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 21,23,25,27,29,30,32,33,35 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 23, lines 7-8, the added language is not understood and appears indefinite because there is no proper antecedent basis for "the pair of second patches". The patches are not recited until line 15.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21,23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasinger et al. (5365246).

Regarding Claims 21,23 and 25, Rasinger et al. show in Fig. 5, a dual-band microstrip antenna designed to operate on at least two resonant frequency ranges (see col. 3, lines 1-5), comprising a ground member 1 (col. 4, lines 19-24) of a rectangular outer profile, a patch structure with a first portion 9 and a second portion comprising a pair of patches 2 and 3, wherein the signal feedline 4,5 is connected to the first patch portion 9, and a shorting member extends from each second patch to the ground member, and the ends and edges of the patch and

ground member are all aligned as recited. A skilled artisan recognizes as obvious that the feedline 4 is connected along a centerline of the patch portion 9, and thus defining a "generally central position on the first patch". Since Rasinger et al. suggest making the portions 2,3,9 of different lengths in order to operate in different resonant frequency ranges, in col. 3, lines 3-5, col. 4, lines 44-48 and in Claims 5 and 16, then it would have been obvious to the skilled artisan to employ the radiators in the Figure 5 as having unequal lengths in order to be resonant in different bands, and therefore extending the total bandwidth of the radio.

Additionally, it would have been obvious to the skilled artisan that there is EM interaction between the patch structure and ground plane member 1 and that the patch structures "are shaped to substantially correspond to patterns of current flow detected in the conduction surfaces when the antenna is active before such shaping", because the artisan provides the shape to provide maximum radiation efficiency.

Regarding Claim 25, a skilled artisan would have found it obvious to vary the lengths and widths of the patch structure, as recited here, in order to provide the proper frequency ranges desired and efficient radiation along with proper impedance matching, particularly since no unexpected results are shown with respect to these parameters.

Response to Arguments

4. Applicant's arguments filed 6/23/2005 have been fully considered but they are not persuasive. Specifically, as set forth in the above rejection, Rasinger et al. do teach

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and suggest that the radiating elements may be of different lengths in order to provide different resonant frequencies, and thus bands in order to widen the operating bandwidth of the radio. In view of the suggestion teaching and claim, any embodiment disclosed by Rasinger et al. may have different length radiators. Since all claimed structure has been shown to be obvious to the skilled artisan, the rejection stands.

Allowable Subject Matter

5. Claims 27,29,30,32,33,35 and 36 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. Claims 22,24,26,28,31,34 and 37 are allowed.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer
Primary Examiner
Art Unit 2828

MCW
8/24/2005